

## LAND MOLLUSKS OF GARRETT COUNTY, MARYLAND.

BY WITMER STONE.

While the writer is not a conchologist, he has for a good many years been picking up such land snails as came in his way in the course of field work in other branches, and submitting them to Dr. Pilsbry for the collection at the Academy of Natural Sciences, at Philadelphia. With an experience limited mainly to the eastern half of Pennsylvania and southern New Jersey, where snail shells are conspicuous by their scarcity and small size, his enthusiasm for conchology did not rise to a very high pitch, and it is therefore not surprising that his first experience in a region where land snails really did thrive and multiply impressed him not a little.

The first visit to Garrett county, Maryland, was made in June, 1907, in company with Messrs. Bayard Long and Thomas D. Keim. We stopped at the little lumber village of Jennings, as the guests of Mr. Herman Belir, who was in charge of the timber operations, and who gave us every possible assistance in carrying on zoölogical and botanical collecting, and whose personal knowledge of the country and its flora and fauna was invaluable.

Jennings is located near the head of the Castleman River, a branch of the Youghiogheny, which flows down into Somerset county, Pa., directly north, and is bounded on the east by Meadow Mountain and the west by Negro Mountain, 2000 to 3000 feet elevation, the former being the watershed between the Potomac and Ohio drainage. Castleman River is lined for a good part of its course with rocky woodland of hemlock, sugar maple, beech, birch, oak, etc., much more varied in character and with a larger percentage of hard wood than the primeval forests of the central Pennsylvania mountains. These woods are often dark and damp with quantities of loose stones and rocks forming their floor, partly covered by moss and low herbs, but with numerous miniature caves and passages extending down among them, and old moss-covered tree-trunks here and there in all stages of decay. During the two days of our stay there was an almost constant drizzling rain, which, however unpleasant it might have been for collectors, was ideal weather for snails. They simply swarmed on old stumps, logs, rocks, and even on the stems and leaves of herbs and low shrubs. A modest tin box brought along

for the accommodation of casual snails and other lower forms of life was soon filled to the brim, then a couple of handkerchiefs knotted into loose bags accommodated a quart or so, until it became evident that the size of the catch was only a question of the time at our disposal, and attention was directed to other fields.

A second trip of a week's duration was made to Jennings in August, 1911. The weather was clear, and this fact, together with the heat of midsummer, drove the snails into subterranean retreats, so that they did not seem so numerous, although a good series was obtained and more attention directed to the smaller species, yielded a number of forms not secured in the first trip.

*Vitrea carolinensis*, a species of the southern Alleghenies, was obtained at Jennings, extending its known range very materially to the northward; also *Mesomphyx laevigata monticola*, a southern Alleghenian shell already known from a little farther north in Pennsylvania. *Vitrea ferrea*, of boreal distribution, not known south of the Pocono Mountain in Pennsylvania and Ohio, so far as I am aware, was also secured.

While these species are interesting to a student of geographic distribution and coincided nicely with similar cases of range among the birds and plants, the big *Polygyras* were what really appealed to me.

In eastern Pennsylvania *P. thyroides* is the only land shell of any size that is generally distributed, though favorable localities yield moderate-sized *P. albolabris*, and towards the mountains we come upon an occasional *Omphalina cuprea*. But here at Jennings we had an abundance of good, big *P. albolabris*, as well as of *P. profunda*, *P. zaleta* and *P. dentifera*, and now and then the northern *P. sayana* and *P. palliata*, together with a dozen species of medium size, only four of which are found in eastern Pennsylvania.

My first collection was placed in a wooden cigar-box in order to keep them alive, and next morning I had the pleasure of seeing them festooning the bureau and looking-glass in my bed-room, long, slimy trails marking their line of escape. The combined strength of the big fellows had been enough to topple the weight off the lid and so enable them to force their way out.

I am greatly indebted to Dr. Henry A. Pilsbry and Mr. E. G. Vanatta for identifying my material, all of which is now in the collection of the Academy. A list of the species follows, as it seems important in view of the rapid deforestation of this country, to pre-

serve records of the relative abundance of all forms of life where primeval conditions still remain :

*Polygyra tridentata* Say. Common.

*Polygyra fraudulenta* Pilsbry. Frequent.

*Polygyra profunda* Say. Common.

*Polygyra sayana* Pilsbry. Three examples.

*Polygyra albolabris* Say. Common, but no specimen of variety *dentata*.

*Polygyra zaleta* Binney. Common.

*Polygyra dentifera* Say. Common.

*Polygyra palliata* Say. Frequent.

*Polygyra monodon fraterna* Say. Frequent.

The *Polygyras* were most abundant in damp, dark woodland. Curiously enough, I found not a single specimen of *P. thyroides* or *P. hirsuta*. The former has been taken by Mr. S. Brown at Laurel Ridge, Somerset county, Pa., and the latter at Ohio Pyle, Fayette county, Pa. Possibly they do not push so far back into the mountains as the other species.

*Bifidaria corticaria* Say. Eight specimens.<sup>1</sup>

*Bifidaria contracta* Say. Two specimens.

*Vertigo gouldii* Binney. Eighteen specimens.

*Circinaria concava* Say. Common.

*Omphalina cuprea* Raf. Common.

*Mesomphyx inornata* Say. Common; most frequent on dead leaves on the floor of the forest.

*Mesomphyx laevigata monticola* Pilsbry. Three examples.

*Vitrea indentata* Say. Twelve specimens.

*Vitrea carolinensis* Cockll. One specimen.

*Vitrea multidentata* Binn. Two specimens.

*Vitrea ferrea* Mse. Four specimens.

*Vitrea milium* Mse. Two specimens.

*Zonitoides arborea* Say. Common.

*Gastrodonta intertexta* Binney. Several.

*Gastrodonta ligera* Say. Frequent. This and the preceding seemed to be most abundant in open sugar-maple groves.

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<sup>1</sup>Mr. Vanatta kindly sifted a quantity of dirt and leaves, collected for *Pupidae*, etc., and the actual number of specimens of these minute species obtained from it are given as a possible indication of their abundance.

- Philomycus carolinensis* Bosc. Common.  
*Pyramidula alternata* Say. Common, especially on tree-trunks.  
*Pyramidula perspectiva* Say. Common on fallen logs.  
*Helicodiscus parallelus* Say. Two specimens.  
*Carychium exile* Lea. Three specimens.

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OPEAS GRACILE (HUTTON) IN THE UNITED STATES.

BY HERBERT H. SMITH.

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During a hurried collecting excursion in the outskirts of Mobile (low land near the river) I found a single specimen of *Opeas gracile*. The Museum of the Geological Survey of Alabama has three lots of this species, all collected near Mobile, respectively by Dr. E. R. Showalter, Dr. Charles Mohr and Mr. H. P. Löding. It appears to be rather common, at least in the immediate vicinity of the city. Dr. Pilsbry's list of localities (Man. Conch., XVIII, pp. 198, 199) shows that it is found all around the Caribbean Sea, on both sides of Cuba and Santo Domingo and on the Gulf coast of Mexico. Whether or not it is indigenous on the Alabama coast remains to be seen. It is a shore species, hardly ever found more than a mile or two from the sea, and it might easily be transported on timber which has lain on the beach, or in ballast. On the other hand, it should be remembered that we know very little of the land-snails living on or near our Gulf coasts. The question of a recent or older introduction of this species can only be settled when we have studied the Alabama coast region thoroughly; if it is a recent introduction, its range must be limited to the immediate vicinity of Mobile and perhaps the upper bay; if it is older it will, no doubt, be found on the low lands of Baldwin county, and in Florida.

Not feeling quite sure of my determination, I sent specimens of the shell to Mr. Bryant Walker. In a recent letter he says: "It is *Opeas gracile* Hutt. as you suspected. There are no published U. S. records that I know of, but last spring, when I was in Charleston, S. C., Mr. W. G. Mazyck gave me some that he had collected there and said it was very abundant in that one locality." In this case it seems very probable that the species has been introduced by commerce.

*Museum of the Geological Survey of Alabama, Sept. 5, 1911.*